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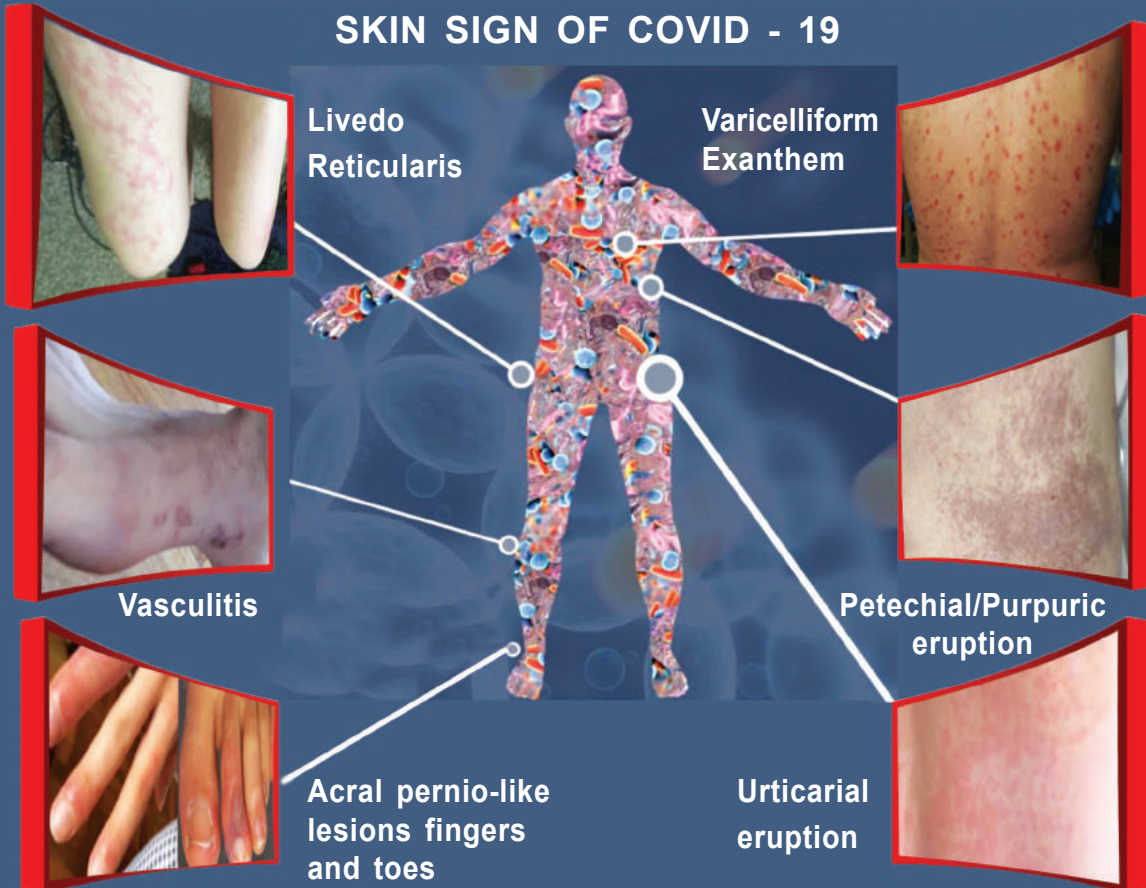
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## SKIN SIGN OF COVID - 19



Idiopathic Livedo Reticularis  
in Covid Pandemic Era

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# Excipients ingredients in the Medication world

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A drug manufacturer creates the medication which has several ingredients included in it. A drug will contain some active ingredients like the chemical compounds which will treat and recover the ill condition in patients. These active ingredients are termed as excipients in the medical world.

## What are the excipients?

The word “excipient” comes from the Latin verb excipere, which means “to take out”. The excipients are present in all the prescribed drugs, over the counter medications, and nutritional supplements. These ingredients may include the dyes, flavors, substances which will function to bind the pills together, lubricants, and preservatives together.

Some excipients help the drug to disintegrate into the particles small enough to reach the bloodstream much more quickly. Others protect the stability of the product. This will maximize the effectiveness at the time of the use. Some excipients may also help in preventing the drug from dissolving into the body. It protects the stomach upset, or high dose immediately after taking the drug.

These inactive ingredients are supposed to be inert, which does not have any side effects on the human body. Some potential allergic reactions are common but

active ingredients never create unusual results.

## Trends in Excipient Demand

Excipients play a key role in helping the pharmaceutical manufacturer serving the patients with better and improved efficacy of treatment. The pharmaceutical manufacturers are seeking out innovative excipients which address the bioequivalence development and solubility challenges but enhance the formulations. They even help in reducing the developmental costs by offering opportunities to differentiate the products through the new modes of Drug delivery.

- It provides access to new treatments with improved efficacy of new chemical entities that are less soluble.
- It addresses the specific needs for the pediatrics and geriatrics- taste masking, alternative dosage forms, and easy to swallow.
- It improves the compliances which control the release of the frequency of extended duration and administration.
- It improves the ease of administration- like no food or water, no need for refrigeration, lowering the risk of over-dosage due to the consumption of alcohol and beverages.
- It helps in improving the production of technologies and realizes more efficient and effective ways of processing.
- The solubility and permeability of many new chemical entities that are highly potent is a key

issue for the development of new drug formulations. Survey says that the solubilizers are used to improve the solubilization of the hydrophobic substances and to increase bioavailability.

- The multi-functional excipients can help pharma manufacturing by enhanced flowability, improved compressibility, better bioavailability, particle size distribution, and abridge the dust generation.

The versatility of the Excipient is combined with the well-experienced drug formulations which can reduce the development costs of the new drug products that are significant and increase the chance to hit the right therapeutic window.

## Excipient in Liquid dosage formations

In any form of liquid dosage, the drug substance contains the excipients which serve the diverse and specialized pharmaceutical purposes. These selective excipients are present in greater proportion in bulk for the perfect formulation. It is therefore essential to ensure the excipients in the liquid dosage form that is typically compatible with the drug substances and every other compound in the dosage.

## Excipient used in the formation of the pharma liquid dosages includes;

### 1. Vehicle/solvents

- a) Water as a solvent
- b) Alcohol as a solvent
- c) Glycerin and USP Glycerol as a solvent

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- d) Propylene Glycol as a solvent
- e) Polyethylene Glycol 400 as a solvent

## 2. Co-Solvents

## 3. Surfactants

- a) **Anti-foaming agents** - Dimethicone, simethicone ethylene glycol distearate, sorbitan tristearate
- b) **Water/Oil emulsifier** - Propylene glycol monostearate, glyceryl monostearate, propylene glycol monolaurate, sorbitan stearate (Span 60), diethylene glycol monostearate, sorbitan monooleate (Span 80)
- c) **Wetting agent** - Diethylene glycol monolaurate, sorbitan monopalmitate, sucrose dioleate
- d) **Oil/Water emulsifier** - Polyethylene glycol monooleate, sorbitan monolaurate (Span 20), polyoxyethylene sorbitan monostearate, polyoxyethylene sorbitan tristearate
- e) **Detergent** - Polyethylene glycol (400) monolaurate, polyoxyethylene sorbitan monolaurate, triethanolamine oleate, PEG-8 laurate
- f) **Solubilizer** - Polyoxyethylene sorbitan monooleate (Tween 80), polyoxyethylene sorbitan monopalmitate (Tween 60), sodium oleate, polyoxyethylene stearate, potassium oleate

## 4. Preservatives

- a) Antimicrobial Preservatives
- b) Antifungal Preservatives

## 5. Viscosity modifiers / Suspending Agents

## 6. Buffers

## 7. Antioxidants

- a) Oil-soluble
- b) Water Soluble
- c) Slightly Water Soluble

## 8. Chelating Agents

## 9. Sweeteners

- a) Sucrose
- b) Sorbitol
- c) Mannitol
- d) Saccharin sodium
- e) Xylitol
- f) High fructose corn syrup

## 10. Flavouring Agents

## 11. Colourants

Examples being the addition of red color with cherry flavor, yellow with lemon, green with mint, purple with blackcurrant to add flavor to the food.

## 12. Antifoaming agents

## 13. Humectants

- a) Propylene glycol
- b) Glycerol
- c) Polyethylene glycol
- d) Sorbitol - hygroscopic

## 14. Emulsifying agents

- a) Sodium lauryl sulphate
- b) Cetrimide
- c) Macrogols

## 15. Flocculating agents

Excipient serves diverse and specialized pharmaceutical purposes in the form of various dosages. It is present in every formulation in a slight percentage. The process undergoes various physical interactions under various active and interactive conditions with an adverse reaction.

To avoid the incompatible Excipient the assured safety and security are maintained while manufacturing liquid dosage. The evaluation identifies all the forms of drug Excipient and interactions for a better result.

## Herbal Excipients

Many of us may not know but herbal Excipient is a plant and plant-based materials. These are extracted from various parts of the plant. The herbal excipients are beneficial and are freely available. It is less expensive, stable, and easily biodegradable. Often it is used to come out of the trouble of toxicity, chemical compatibility of synthetic excipients in the numerous drug delivery systems. Extracted materials from plants can be processed to a certain extent and incorporated in a dosage form to achieve the specific performance by formulation.

Excipient used the herbal formulations to improve the patients' compatibility by masking the unpleasant taste, or texture and enables to guarantee the required active amount of constituents to reach the body at the right time. For these effective reasons, researchers have investigated both natural and synthetic excipients.

## 1. Plant polysaccharides

### a) Gums

- I. The endosperm of seeds Eg: Locus bean gum, Tamarind Seed Gum
- II. Tree extrudates Eg: Khaya gum, Karaya Gum, Tragacanth

#### b) Mucilages

- I. From fruits Eg: Okra mucilage
- II. From leaves Eg: Hibiscus mucilage
- III. From Seed Coat Eg: Fenugreek Mucilage

#### c) Others

- I. From tubers and bulbs Eg: Konjac, Glucomannan, Starch
- II. From Wild yam, Onions Eg: Inulin

#### 2. Other Polymers

- a) The polymer of tannins from the bark. Eg: Bhara Gum
- b) Resin and Oleoresins
- c) The polymer of Abietic acid and Pimaric Acid. Eg: Copal resin, Gum Damar, Rosin

There are some of the polymers, preservatives, penetration that chiefly enhances and sweetens from various plant sources. The Herbal excipients are only fulfilling their role in the formulation offering immense health benefits by discarding the hazards of the synthetic chemicals. More research effort should be provided for the investigation on herbal materials to innovate no-toxicity, biocompatible, patient acceptable, cost effective, eco-friendly excipients which are largely suitable to incorporate in the pharmaceutical preparations.

#### Potential problems in utilizing the Excipient

The excipients in the process of formulating the

medication are supposedly inert which are meant not to react with any sort of drug. There are some examples like calcium salts- used like filler in the medication process. It can cause your intestine not to absorb certain antibiotics. In such cases, there are other ways of dealing with it. These bind the digestive tract and interfere with the absorption process. The scientist has formulated the potential interactions into this account while designing the drugs.

Thus, it is possible to be allergic or irritant feeling due to some excipients included in the medication. There are no severe cases recorded to this. The other drug formulations do contain corn starch as a binder or filler. Thus, the potential side effects are part and parcel of any medication. Do not worry about these things. Avoid those that irritate you, make an effort to make the list of active ingredients that create a long-lasting positive effect and no interaction with the active drugs.

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The word 'Vertigo' is derived or conceived from the Latin word "Vertere" which means 'to turn'. It is an illusory sense of motion while the patient is stationary, i.e. the illusion of spinning, rotating, or rocking movement of one's self or the environment when there is no movement of the surrounding. Although the terms vertigo and cizziness are often used interchangeably, according to the Vestibular Disorders Association, dizziness is a sensation of light-headedness, faintness, or unsteadiness, whereas vertigo involves a rotational or spinning component and is the perception of movement of either the self or the environment.

Vertigo/Dizziness is third most common complaint among all outpatients and single most common complaint among patients aged 75 years and above.

Dizziness always presents as a challenge to the clinician. The term itself is nonspecific and encompasses a wide range of symptoms including light headedness, imbalance, fainting spells, and disequilibrium.

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